MINOS+ Status Report

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All Experimenters' Meetings

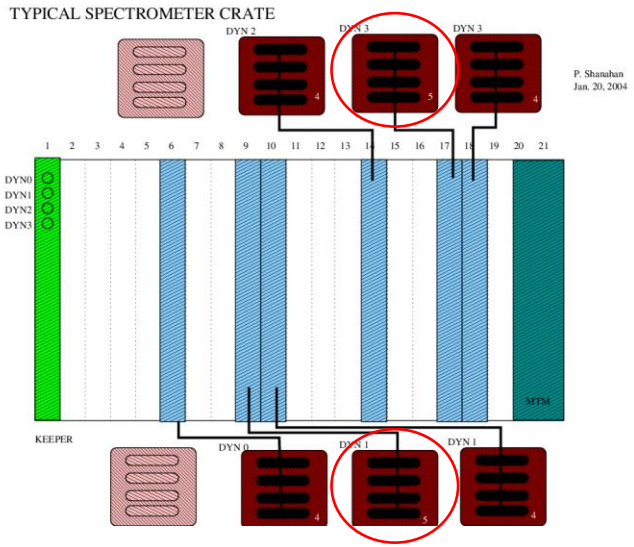
October 28, 2013

Near Detector Hardware

- LCW (Low Conductivity Water Systems) loop and ND coil magnet
  - Refilling the LCW expansion tank
  - Resistivity in the LCW loop over the last 6 months is dropping
  - Should replace the DI bottle filter and other filters in the LCW loop
  - Arrange this in the next access of more than a day
- New serial server installed
  - We have more than 16 computers
  - Like to connect them all to a serial server
  - 32 port serial server has replaced 16 port one
  - Not for normal data taking, for emergency access only
- Old DAQ computer removal
  - Two racks of the old DAQ computers have been removed
  - 2 BRP computers have been shipped to Soudan as spares, 2 more to follow
  - A total of 13 PVIC cards of two flavors (optical and differential) will be shipped to Soudan.
  - Keep 2 spares for the ND timing system
- New DAQ computing rack
  - Plan to install a new sealed DAQ computing rack
  - Long term health for the new computers

Low Rate Minder

Bad (?) Alner box/PMT



Good Alner box/PMT

Possible problem

- Another faulty Alner box spare
- Optical fiber(s) or connections from detector to Alner box
- or the detector itself (unlikely)

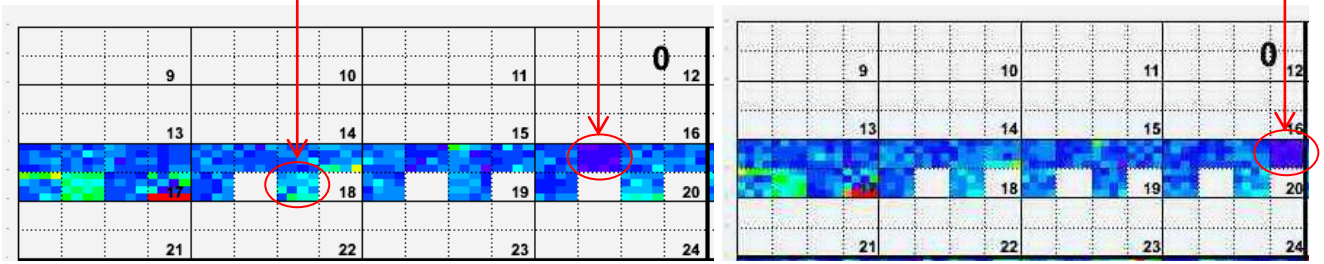
Further troubleshooting

- Moved a "good“ Alner box from 0-20-5 (plane 141/151) to 0-20-1 (plane 121/131)
- Previously low rate channels 0-20-1 are now OK
- The problem was due to "bad" Alner box/ PMT
- A second spare is now in 0-20-5, which shows low rate: another bad spare?

Alner box repair

- Retrieved a PMT from one CalDet Alner box to replace the one in the “bad” box
- Will test this repaired box in Lab G before putting back into detector
- Oxford will ship to us some PMT assemblies spares

0-18-6 0-20-1 0-20-5



Near Detector DAQ

- Last week, the DAQ was crashing in FiberNoiseSpecial run, so we removed that from the RS24Hour sequence
- After some investigation by Bill, it's been put back.
- Bill's theory is that NearCheckCalib sometimes leaves the system in a non-zero suppression state, such that whatever run comes next will fail subsequently
- Data were OK during this issue, only the zero suppression was disabled, resulting in more low count data in the data stream
- The new (current) readout version has added a short delay to the writing and reading of the VME zero suppression threshold registers
- Since this was added, FiberNoiseSpecial has been working
- Still need pay attention to make sure the problem is really gone

Far Detector

- Regular detector maintenance
  - Flat charge injection on crate 12
    - Fixed by changing the PMT base corresponding to chip 12-2-2-1-2
  - Rail voltage problem on crate 11 VFB
    - Replacing both fuses on VFB 11-2-4-0
    - Changed the batteries in VFB 11-2-4-0
- FD DAQ running happily and smoothly

MINOS+ Status

- We are taking very good data – Thanks, AD!
- Regular shifts are underway
  - ✓ Shifts are mostly covered for the next two months.